ENVIRONMENTAL ASSESSMENT
Fisheries Division
Montana Fish, Wildlife & Parks
Lolo Ditch fish screen

General Purpose: The 1995 Montana Legislature enacted sections 87-1-272 through 273, MCA that direct Montana Fish, Wildlife & Parks (FWP) to administer a Future Fisheries Improvement Program (FFIP). The program involves providing funding for physical projects to restore degraded fish habitat in rivers and lakes for the purpose of improving wild fisheries. The legislature established an earmarked funding account to help accomplish this goal. Additionally, the 1999 Montana Legislature amended statute sections 87-1-273, 15-38-202 and Section 5, Chapter 463, Laws of 1995 to create a bull trout and cutthroat trout enhancement program. This legislation was amended again in 2013 to open the program to all native fish species (statute section 87-1-283). The program now calls for the enhancement of native fish through habitat restoration, natural reproduction and reductions in species competition by way of the FFIP.

The FFIP tentatively plans to provide partial funding toward the installment of a fish screen (corrugated water type) on the Lolo Ditch. The overall goal is to eliminate fish entrainment and improve migration corridors for native and nonnative migratory trout.

I. Location of Project:

This project will be conducted on the Lolo Ditch, which comes off of Lolo Creek near the town of Lolo. It is located within Township 11N, Range 20W, Section 6 in Missoula County (Figure 1).

II. Need for the Project:

One goal within FWP's six-year operations plan for the fisheries program is to "protect, maintain, and restore native fish populations, their habitats, life cycles, and genetic diversity to ensure stewardship of native species." Lolo Creek supports populations bull trout and westslope cutthroat trout in its upper tributaries. This improvement could help improve these native species. Additionally, this project meets the goal of restoring and enhancing degraded fisheries habitats for all species. By implementing an improvement project and reducing a significant source of entrainment, this proposed project would help meet this goal. In addition to native fish, brown trout, rainbow trout, and mountain whitefish that move between Lolo Creek and the Bitterroot River would also be affected. FWP has identified the Lolo Ditch entrainment as one of the greatest negative impacts on wild fish populations in the creek.

III. Scope of the Project:

Lolo Creek (Missoula County) is the third largest drainage in the Bitterroot watershed and its upper tributaries are strongholds for bull trout and westslope cutthroat trout. Brown trout, rainbow trout, and mountain whitefish are also present. The stream is impacted by dewatering and high water temperatures in the lower reaches, and entrainment, sediment, and fish passage are issues in the higher reaches. The

Lolo Ditch is the largest irrigation diversion on Lolo Creek and can divert up to 75% of flow in low flow periods. Large numbers of fish are entrained in the ditch (Figure 2).

The fish that enter the ditch become entrained and cannot return to Lolo Creek. This project would install a fish screen on the Lolo Ditch and keep fish within the Lolo Creek and Clark Fork drainages. Maintenance would be the responsibility of the Clark Fork Coalition and its partners, in coordination with the water users. The goal is to improve fish populations and enhance fishing opportunities through improved survival.

An engineer has designed the project and the field survey, analysis of alternatives, and initial selection of preferred fish screen design with the water users is complete. The chosen design is a corrugated water screen (CWS; Figure 3), a newer design that was selected as the top choice due to its lack of moving parts, ease of maintenance, and in large part due to its much lower cost when compared to similar screens.

This project is expected to cost $218,280. Of this total, the FFIP would be contributing $70,000 to complete the project. Matching funds would be provided by the following sources:

Contributor	In-kind services	In-kind cash
Private Donor		$6,000
Bitterroot Trout Unlimited		$2,500
Weeden Foundation		$10,000
New Belgium Brewing		$2,000
WSCTU		$10,000
UWFWS-NFPP		$90,000
Private Donors/Foundation		$19,780
Montana TU		$5,000
Jerry Metcalf Foundation		$3,000
TOTAL: $148,280		

IV. Environmental Impact Review Checklist:

Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment

Project Title: Lolo Ditch Fish Screen
Division/Bureau: Fisheries Division (FFIP) / Fish Management Bureau
Description of Project: This project would install a corrugated water fish screen on Lolo Ditch, reducing entrainment and the biggest negative impact to fish populations in the drainage.

A. POTENTIAL IMPACTS TO THE PHYSICAL ENVIRONMENT

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Geology and soil quality, stability and moisture				X		
2. Air quality or objectionable odors				X		
3. Water quality, quantity and distribution (surface or groundwater)			X			X
4. Existing water right or reservation				X		X
5. Vegetation cover, quantity and quality				X		
6. Unique, endangered, or fragile vegetative species				X		
7. Terrestrial or aquatic life and/or habitats			X			X
8. Unique, endangered, or fragile wildlife or fisheries species			X			X
9. Introduction of new species into an area				X		
10. Changes to abundance or movement of species			X			X

B. POTENTIAL IMPACTS ON THE HUMAN ENVIRONMENT

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Noise and/or electrical effects				X		
2. Land use				X		
3. Risk and/or health hazards				X		
4. Community impact				X		
5. Public services/taxes/utilities				X		
6. Potential revenue and/or project maintenance costs				X		
7. Aesthetics and recreation				X		
8. Cultural and historic resources				X		
9. Evaluation of significance				X		
10. Generate public controversy				X		

V. Explanation of Impacts to the Physical Environment

3. Water quantity, quality, and distribution.

No changes in streamflow would occur in Lolo Creek as a result of the proposed project. Short-term increases in turbidity may occur during project construction. To minimize turbidity, operation of equipment in the stream channel will be minimized to the extent practicable. A 318 authorization will be obtained, if necessary, to meet short-term water quality standards.

4. Existing water right or reservation.

Although this project will affect an irrigation diversion, it will not impact any existing water rights or reservations since the fish screen will be appropriately sized for the landowner's water right.

7. Terrestrial or aquatic life and/or habitats.

This project is addressing a major source of mortality in Lolo Creek and the Bitterroot River. Entrainment has been identified as a major issue, as fish are moving into the Lolo Ditch and not returning to the creek and river. This project is expected to have a significantly positive impact on aquatic life and habitats by reducing a large source of mortality.

8. Unique, endangered, or fragile wildlife or fisheries species.

This project will benefit two of Montana's Species of Concern, westslope cutthroat trout and bull trout. These fish are also recognized Federally as Sensitive and Threatened, respectively. Although these species are primarily located in the headwaters of Lolo Creek, any impacts to these species would be considered positive.

10. Changes to abundance or movement of species.

All age classes of fish that enter the irrigation diversion through the headgate would be screened and returned to the stream through a bypass pipe. This is expected to increase fish survival and abundance. The elimination of entrainment is expected to have a significant positive impact on survival of fish in Lolo Creek.

VI. Explanation of Impacts to the Human Environment

None

VII. Narrative Evaluation and Comment.

There are no anticipated cumulative effects.

VIII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative.

If no funding is provided through the FFIP, either the applicant would have to seek additional sources of funding to complete the project, or no fish screen would be installed. Fish would continue becoming entrained in the irrigation diversion at a highly significant level.

2. The Proposed Alternative.

The proposed alternative intends to provide partial funding through the FFIP to eliminate fish entrainment, improve migration corridors for native and nonnative trout through the installation of a screen an irrigation ditch.

IX. Environmental Assessment Conclusion Section.

1. Other groups or agencies contacted or which may have overlapping jurisdiction:

Montana Department of Environmental Quality
Missoula Conservation District
U.S. Army Corps of Engineers
Montana Department of Natural Resources
U.S. Fish & Wildlife Service

2. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

None.

3. Is an EIS required?

No. We conclude, from this review, that the proposed activities will have an overall positive impact on the physical and human environment, and will therefore not require the extensive analysis associated with an EIS.

4. Level of public involvement.

The project application to the FFIP has been posted on the FWP webpage for public comment. No comments have been received to date. The proposed project was reviewed and supported by the public review panel of the FFIP. The proposed project also will be reviewed by the Fish & Wildlife Commission, and funding will be contingent upon their approval. The EA will be distributed to all individuals and groups listed on the cover letter and will be published on the FWP webpage: **www.fwp.mt.gov**.

5. Duration of comment period?

Public comment will be accepted through 11:59 PM, July 30th 2019.

6. Person(s) responsible for preparing the EA.

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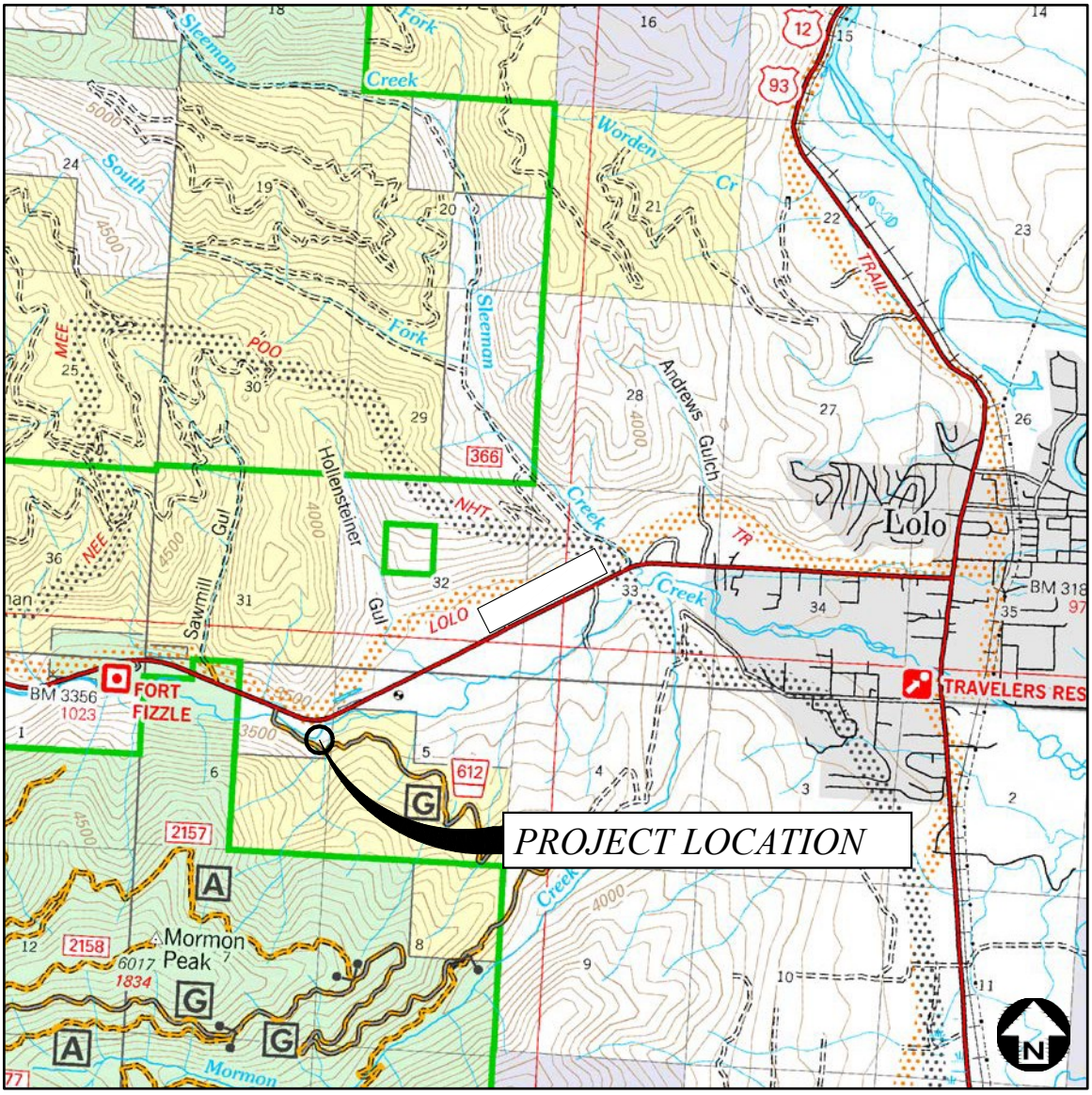

Figure 1: Project Location

Figure 2. Fish rescued from the Lolo Ditch in 2018.

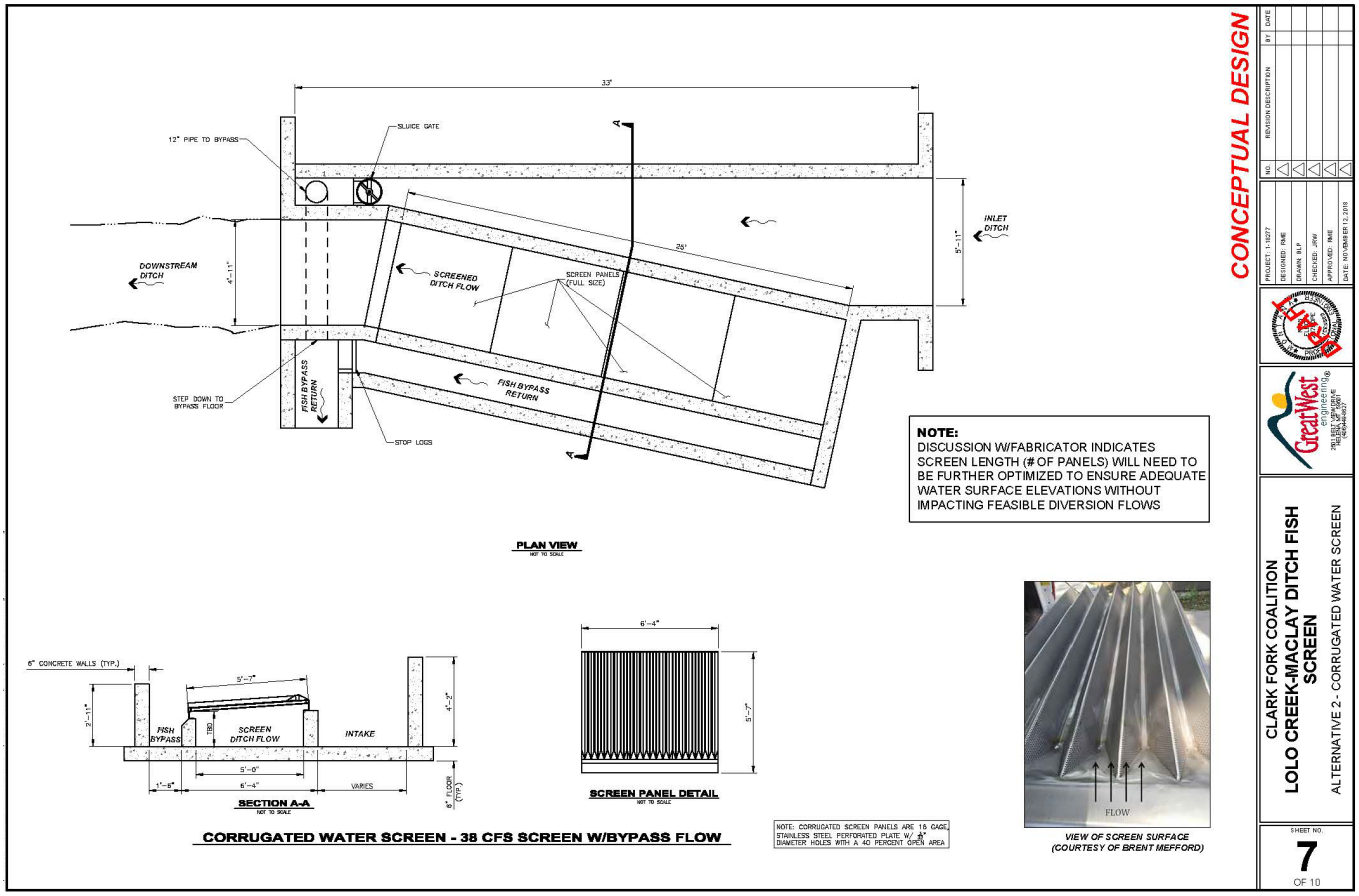

Figure 3: Corrugated Water Screen plan view (Courtesy of Great West Engineering)